

AMENDMENTS TO THE CLAIMS:

This following listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1 (Currently Amended): A method of isolating a β (1-3) β (1-4) glucan from a milled cereal grain or a milled part of the cereal grain, comprising:

- (i) extracting the milled cereal grain or the milled part of the cereal grain with an alkaline solution having a value of pH of between 9 to 10 for a period of time of about 15 to about 45 minutes to produce an extract containing at least about 0.4 weight percent β (1-3) β (1-4) glucan;
- (ii) removing insoluble material, and removing particulate material having a particle size of greater than about 0.2 μm from said extract to produce a purified extract;
- (iii) adding from between about 10% to about 25% 20% (w/w) (vol/vol) of a $\text{C}_1\text{-C}_4$ alcohol to the purified extract to precipitate the β (1-3) β (1-4) glucan, and
- (iv) isolating the β (1-3) β (1-4) glucan.

2 (Currently Amended): The method of claim 1, wherein, ~~in said step of adding (step iii), about 10% to about 20% (w/w) of an~~ the $\text{C}_1\text{-C}_4$ alcohol ~~is selected from the group consisting of methanol, ethanol and isopropanol, is used to precipitate the β (1-3) β (1-4) glucan from said purified extract.~~

3 (Currently Amended): The method of claim 2, wherein ~~about 10% to about 20% (w/w) of the $\text{C}_1\text{-C}_4$ alcohol is~~ ethanol ~~is used to precipitate the β (1-3) β (1-4) glucan from said purified extract.~~

4 (Original): The method of claim 1, wherein, said step of removing particulate material comprises:

one, or more than one step of adding a flocculant, a coagulant or both a flocculant and a coagulant to said extract to coagulate particulate material having a particle size of greater than about 0.2 μm , and removing coagulated material from said extract;

digesting starch material in said extract, and

filtering out particulate material having a particle size of greater than about 0.2 μm from said extract to produce a purified extract.

5 (Original): The method of claim 4, wherein, in said step of digesting, said starch material is digested with an enzyme.

6 (Original): The method of claim 5, wherein prior to digesting said starch material, said alkaline solution is neutralized.

7 (Original): The method of claim 6, wherein following the digestion of said starch material, said enzyme is inactivated.

8 (Original): The method of claim 7, wherein said enzyme is inactivated by acidifying the neutralized solution.

9 (Original): The method of claim 5, wherein said enzyme is an amylase.

10 (Original): The method of claim 9, wherein said amylase does not require a calcium cofactor.

11 (Original): The method of claim 1, wherein the cereal is selected from the group consisting of a cultivar of barley, a cultivar of oat, a cultivar of wheat, a cultivar of rye, a cultivar of sorghum, a cultivar of millet, and a cultivar of corn.

12.-13. (Canceled)

14 (Original): The method of claim 1, wherein said step of adding (step iii) is conducted at a temperature of from about 1°C to about 10°C.

15 (Currently Amended): The method of claim 1, further comprising one, or more than one step of dissolving the isolated β (1-3) β (1-4) glucan in an aqueous solution, precipitating the β (1-3) β (1-4) glucan by adding ~~about~~ between 10% to ~~about 25%~~ 20% (w/w) (vol/vol) of the C₁-C₄ alcohol to the aqueous solution, and isolating the β (1-3) β (1-4) glucan.

16 (Currently Amended): A method of isolating a β (1-3) β (1-4) glucan from a milled cereal grain or a milled part of the cereal grain, comprising:

(i) extracting the milled cereal grain or the milled part of the cereal grain with an alkaline solution having a value of pH of between 9 to 10 for a period of time of about 15 to about 45 minutes to produce an extract comprising at least about 0.4 weight percent β (1-3) β (1-4) glucan;

(ii) removing insoluble material, and removing ~~particulate~~ particulate material having a particle size of greater than about 0.2 μ m from said extract to produce a purified extract, wherein the step of removing particulate material comprises:

one, or more than one step of adding a flocculant selected from the group consisting of a polyacrylamide, a quaternary acrylate salt and a natural flocculant macromolecule, a coagulant selected from the group consisting of alum, lime, ferric chloride, ferrous sulfate, an organic polymer and a synthetic polyelectrolyte with anionic or cationic functional groups, or both [[a]]

the flocculant and [[a]] the coagulant to said extract to coagulate particulate material having a particle size of greater than about 0.2 μm , and removing coagulated material from said extract;

enzymatically digesting starch material in said extract, and

filtering out particulate material having a particle size of greater than about 0.2 μm from said extract to produce the purified extract;

(iii) adding about 10% to about 25% (vol/vol) ~~(w/w)~~ of a C₁-C₄ alcohol to the purified extract to precipitate the $\beta(1-3)$ $\beta(1-4)$ glucan, and

(iv) isolating the $\beta(1-3)$ $\beta(1-4)$ glucan.

17.-27. (Cancelled)

28 (New): The method of claim 4, wherein the flocculant is selected from the group consisting of a polyacrylamide, a quaternary acrylate salt and a natural flocculant macromolecule, and the coagulant is selected from the group consisting of alum, lime, ferric chloride, ferrous sulfate, an organic polymer and a synthetic polyelectrolyte with anionic or cationic functional groups.

29 (New): The method of claim 1, wherein about 15% to about 17% (vol/vol) of the C₁-C₄ alcohol is added to the purified extract in step (iii).

30 (New): The method of claim 16, wherein about 10% to about 20% (vol/vol) of the C₁-C₄ alcohol is added to the purified extract in step (iii).

31 (New): The method of claim 16, wherein about 15% to about 17% (vol/vol) of the C₁-C₄ alcohol is added to the purified extract in step (iii).